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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/520,893

**Applicant(s)**

CARLSSON, NISS JONAS

**Examiner**

BRUK A. GEBREMICHAEL

**Art Unit**

3715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-73 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 25-73 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 10 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. In response to preliminary amendment filed on 01/10/2005, claims 1-24 are cancelled. Claims 25-73 are added. Therefore, claims 25-73 are pending in this application.

#### *Claim Objections*

2. Claims 26-50, 52-61, 63-73 are objected to because of the following informalities:

Regarding claims 26-50, these claims appear to be dependent on cancelled claims.

Regarding claims 52-61 and 63-73, these claims are *method* claims that appear to be dependent on system claims.

Careful review of the claims revealed that the dependency of the claims was established based on the claims order 1-49 instead of 25-73. However, for examination purpose, the Examiner recognized the dependency of each dependent claim to their respective independent claim based on the existing ordering (25-73) of the claims.

In addition, in claims 26, 44, 54 and 70, the phrase "optimised" is believed to be in error for -- optimized --. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- Claims 42 and 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

These claims recite the limitations "non-preprepared information" and "non-preprepared digital text" in lines 2-3 of the claims. However, the specification appears to be silent with regard to these features that one of ordinary skill in the art would not know how to make or use the claimed invention.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 26-28, 32-34, 38-73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 26 and 44 recite the limitation "say a factor two (2)" in line 22 of these claims. It is not clear whether this is part of the claimed invention.

Claims 27, 45, 53 and 69 recite the limitation "say a factor zero point eight (0.8)" in line 6 of claims 27 and 45, and in line 4 of claims 53 and 69. Here also, it is not clear whether this limitation is part of the claimed invention.

The following phrases, "preferably" in claims 28,38, 40, 51 and 62; "e.g." in claims 32, 39, 58 and 63; "such as" in claims 26, 28, 44, 52, 54 and 70 render the claims indefinite because it is unclear whether the limitations following these phrases are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- Claims 25, 28, 35-37, 51, 54, 61 and 73 are rejected under 35 U.S.C. 102(e) as being unpatentable over Futakuchi 2001/0051330.

Regarding claims 25 and 51, Futakuchi discloses the following claimed limitations, System/method for individual learning, said system (1) comprising an apparatus (2) for controlling the learning system (1) (FIG 1, label 3), at least one communication network (3) (FIG 1, *Internet*), at least one user terminal (4) (FIG 1, label 3a), at least one content data base (5) provided with information units, preferably questions and answers (Q/A) (FIG 1, label 4), said content data base (5) being connectable to said apparatus (2) (FIG 1, labels 3 and 4), wherein said apparatus (2) further comprises at least one system data base (10) for storing user specific data (FIG 1, label 3a), means for identification and/or verification of a user, administration means providing said user to control the system (1) (Para.0042), and means (8) for registration of transactions a user performs (Para.0019), wherein said apparatus (2) is connectable to a learning tool (11 ) comprising an interface (12) for presenting data to the user (Para.0045 and FIG 4), wherein the learning tool (11 ) is arranged to provide selective

training according to the user's knowledge and to present a dynamic image of the knowledge status for the user in each point in time (Para.0047, lines 1-12 and Para.0049, lines 1-5),

Regarding claims 28 and 54, a filter means (18) are provided, preferably in the learning tool (11), for presenting information units, such as Q/A:s in a particular order to the user (Para.0047),

Regarding claims 35 and 61, wherein the administration means (7) is arranged to provide a user to control the system (1) (Para.0042),

Regarding claim 36, the means (8) for registration is arranged to register transactions a user performs, and to store data in the system data base (10) comprising user specific data (Para.0019 and Para.0050),

Regarding claim 37, the user terminal (4) is a mobile phone, a PDA, a laptop or a PC (FIG 1, label 1),

Regarding claim 73, a computer program product stored on a computer useable medium, comprising in a computer readable code means to make the computer execute the method according claim "51" (Para.0020, lines 1-9).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 29-30 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Futakuchi 2001/0051330 in view of Ho 6,212,358.

Regarding claims 29 and 55, Futakuchi discloses the claimed limitations as discussed above.

Futakuchi does not explicitly discuss, diagnosis means (20) is provided to estimate the knowledge of the user within a subject.

However, Ho teaches, diagnosis means (20) is provided to estimate the knowledge of the user within a subject (col.7, lines 53-59 and col.8, lines 46-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Ho by incorporating an assessor in the system in order to evaluate the accuracy of the student's answers by comparing the responses to the stored answers, thereby establishing the student's learning progress.

Regarding claims 30 and 56, Futakuchi discloses the claimed limitations as discussed above.

Futakuchi does not explicitly discuss, tool (21) for extracting information units from non-preprepared information, preferably to create Q/A:s from a non-preprepared digital text is provided in the apparatus (2).

Ho teaches, tool (21) for extracting information units from non-preprepared information, preferably to create Q/A:s from a non-preprepared digital text is provided in the apparatus (2) (col.7, lines 45-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time

of the invention was made to modify the invention of Futakuchi in view of Ho by including a question generator in the system in order to assemble questions or problems from the study materials that the student covered so that the system would indicate the study progress of the student based on the student's result.

- Claims 31-32, 34, 38-41, 43, 46, 48-50, 57-58, 60, 62-65, 67, 70 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Futakuchi 2001/0051330 in view of Geshwind 2002/0052860.

Regarding claims 31 and 57, Futakuchi discloses the claimed limitations as discussed above.

Futakuchi does not positively disclose, at least one proactive dictionary (22) is connectable to the system (1) or provided in the apparatus (2), said dictionary (22) being adapted to present words considered by the system (1) to be unknown for the user.

However, Geshwind teaches, at least one proactive dictionary (22) is connectable to the system (1) or provided in the apparatus (2), said dictionary (22) being adapted to present words considered by the system (1) to be unknown for the user (Para.0098).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by incorporating a dictionary as a link in order to provide the student a quick access to a definition of unfamiliar word or phrase, thereby helping the student to understand the study material without difficulties.



Regarding claims 32 and 58, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, wherein said dictionary (22) is arranged to check a text, either stored in the system or introduced to the system from an external source (e.g. Internet), to a user's profile, to look up data not known by the user, and presenting translations or other types of Q/A:s simultaneously (see FIG 14, labels 1410 and 1420).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by configuring the system to first check the unknown word or phrase in a glossary of terms related to the student's study material in order to provide the student a definition consistent with the subject of study, thereby helping the student to comprehend the study material efficiently. Here, as already indicated in Geshwind's reference, the system would further check the unknown word against a general dictionary if its definition were not found in the glossary of terms.

Regarding claims 34 and 60, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, at least one external dictionary (24) is connectable to the system (1), said at least one external dictionary being adapted to cooperate with the system (FIG 14, labels 1410 and 1420).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by providing a domain-specific glossary of terms and a general dictionary in order to

help the student to understand some of the terms (words) that are not defined in the domain-specific glossary by using the general dictionary so that the student would have the flexibility to use additional resources when needed.

Regarding claims 38 and 62, Futakuchi discloses the following claimed limitations, system/method for individual learning, said system (1) comprising an apparatus (2) for controlling the learning system (1) (FIG 1, label 3), at least one communication network (3) (FIG 1, *Internet*), at least one user terminal (4) (see FIG 1, label 1), at least one content data base (5) provided with information units, preferably questions and answers (Q/A) (FIG 1, label 4), said content data base (5) being connectable to said apparatus (2) (FIG 1, labels 3 and 4), wherein said apparatus (2) further comprises at least one system data base (10) for storing user specific data (see FIG 1, label 3a), means for identification and/or verification of a user, administration means providing said user to control the system (1) (Para.0042), and means (8) for registration of transactions a user performs (Para.0019).

Futakuchi does not positively disclose, at least one proactive dictionary (22) is connectable to the system (1) or provided in the apparatus (2), said dictionary (22) being adapted to present words considered by the system (1) to be unknown for the user.

Geshwind teaches, at least one proactive dictionary (22) is connectable to the system (1) or provided in the apparatus (2), said dictionary (22) being adapted to present words considered by the system (1) to be unknown for the user (Para.0098).

Therefore, here also it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by incorporating a dictionary in the system as a link in order to provide the student a quick access to a definition of unfamiliar word or phrase, thereby helping the student to understand the study material without difficulties.

Regarding claims 39 and 63, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, said dictionary (22) is arranged to check a text, either stored in the system or introduced to the system from an external source (e.g. Internet), to a user's profile, to look up data not known by the user, and presenting translations or other types of Q/A:s simultaneously (Para.0097 and Para.0098).

Therefore, as already indicated above, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by incorporating a dictionary as a link or a web-page in order to provide the student a quick access to a definition of unfamiliar word or phrase, thereby helping the student to understand the study material without difficulties.

Regarding claims 41 and 65, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, at least one external dictionary (24) is connectable to the system (1), said at least one external dictionary being adapted to cooperate with the system (FIG 14, labels 1410 and 1420).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind by providing a domain-specific glossary of terms and a general dictionary in order to help the student to understand some of the terms (words) that are not defined in the domain-specific glossary by using the general dictionary so that the student would have the flexibility to use additional resources when needed.

Futakuchi in view of Geshwind teaches the claimed limitations as discussed above. Futakuchi further discloses,

Regarding claims 43 and 67, said apparatus (2) is connectable to a learning tool (11) comprising an interface (12) for presenting data to the user, said the learning tool (11) being arranged to provide selective training according to the user's knowledge and to present a dynamic image of the knowledge status for the user in each point in time (Para.0047, lines 1-12 and Para.0049, lines 1-5),

Regarding claims 46 and 70, filter means (18) are provided, preferably in the learning tool (11), for presenting information units, such as Q/A:s in a particular order to the user (Para.0047),

Regarding claims 48 and 72, the administration means (7) is arranged to provide a user to control the system (1) (Para.0042),

Regarding claim 49, the means (8) for registration is arranged to register transactions a user performs, and to store data in the system data base (10) comprising user specific data (Para.0049 and Para.0050),

Regarding claim 50, the user terminal (4) is a mobile phone, a PDA, a laptop or a PC (FIG 1, label 1).

- Claims 33, 40, 42, 47, 59, 64, 66 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Futakuchi 2001/0051330 in view of Geshwind 2002/0052860 and further in view of Ho 6,212,358.

Regarding claims 33 and 59, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, the dictionary (22) is connectable to user's profile for acceptable texts or fragments of texts, based on stated interest and level of knowledge (Para.0094 and Para.00101, lines 1-10).

Futakuchi in view of Geshwind does not explicitly teach, a tool for extraction of teaching or learning material from texts.

However, Ho teaches a tool for extraction of teaching or learning material from texts (col.6, lines 11-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind and further in view of Ho by incorporating a generator (or a selector) in the system in order to select items to be learnt from the item (subject) storage medium (see FIG 2, label 106) so that items that are suitable to a given study material are presented to the student.

Regarding claims 40 and 64, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Geshwind further teaches, said dictionary (22) is connectable to a user's profile for acceptable texts or fragments of texts, based on stated interest and level of knowledge (Para.0098 and Para.0101, lines 1-10).

Futakuchi in view of Geshwind does not explicitly teach, a tool for extraction of teaching or learning material from texts.

However, Ho teaches, a tool for extraction of teaching or learning material from texts (col.6, lines 11-23).

Therefore, here also it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind and further in view of Ho by incorporating a generator (or a selector) in the system in order to select items to be learnt from the item (subject) storage medium (see FIG 2, label 106) so that items that are suitable to a given study material are presented to the student.

Regarding claims 42 and 66, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Futakuchi in view of Geshwind does not explicitly teach, tool (21) for extracting information units from non-preprepared information, preferably to create Q/A:s from a non- prepared digital text is provided in the apparatus (2).

However, Ho teaches, tool (21) for extracting information units from non-preprepared information, preferably to create Q/A:s from a non- prepared digital text is provided in the apparatus (2) (col.7, lines 45-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind and further in view of Ho by including a question generator in the system in order to assemble questions or problems from the study materials that the student covered so that the system would indicate the study progress of the student based on the student's result.

Regarding claims 47 and 71, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Futakuchi in view of Geshwind does not explicitly teach, diagnosis means (20) is provided to estimate the knowledge of the user within a subject.

Ho teaches, diagnosis means (20) is provided to estimate the knowledge of the user within a subject (col.7, lines 53-59 and col.8, lines 46-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind and further in view of Ho by incorporating an assessor in the system in order to evaluate the accuracy of the student's answers by comparing the responses to the stored answers, thereby establishing the student's learning progress.

- Claims 26-27 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Futakuchi 2001/0051330 in view of Ho 6,212,358 and further in view of Meimer 2002/0115048.

Regarding claims 26 and 52, Futakuchi discloses the claimed limitations as discussed above.

Futakuchi further discloses, the system data base (10) is adapted to store information about user profiles, i. e. individual information such as statistical information, one such information being current type of learning state, or knowledge status, for each Q/A in relation to respective user (Para.0055).

Futakuchi does not positively disclose, the learning states comprising the types: "not learned", "test required", "repetition required", "estimated as knowledge", "knowledge", and "knowledge not further checked", that said learning tool 11 is connectable to, or comprises, a test and repetition tool (19) for optimised long term repetition, that said test and repetition tool 19 is adapted to store a point of time when a Q/A is marked as "knowledge" for a particular user, that said test and repetition tool (19) is adapted to control the time  $T_{\text{next test}}$  to which the user has to answer this question again, that if no repetition or test is made to prolong the time  $T_{\text{next test}}$ , then said test and repetition tool (19) is adapted to expire the point in time  $T_{\text{next test}}$  and change the state of the Q/A from "knowledge" to "test required", that if no test is done by the user then said test and repetition tool (19) is adapted to deteriorate the virtual dynamic image of said user's acquired knowledge in the system over time until all Q/A marked as "knowledge" changes state to "test required", that said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required", that if the Q/A is correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time



period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked".

However, Ho teaches, the learning states comprising the types: "not learned", "test required", "repetition required", "estimated as knowledge", "knowledge", and "knowledge not further checked", that said learning tool 11 is connectable to, or comprises, a test and repetition tool (19) for optimised long term repetition, that said test and repetition tool 19 is adapted to store a point of time when a Q/A is marked as "knowledge" for a particular user, that said test and repetition tool (19) is adapted to control the time  $T_{\text{next test}}$  to which the user has to answer this question again (col.9, lines 9-17), that if no repetition or test is made to prolong the time  $T_{\text{next test}}$ , then said test and repetition tool (19) is adapted to expire the point in time  $T_{\text{next test}}$  and change the state of the Q/A from "knowledge" to "test required" (col.9, lines 28-33), that if no test is done by the user then said test and repetition tool (19) is adapted to deteriorate the virtual dynamic image of said user's acquired knowledge in the system over time until all Q/A marked as "knowledge" changes state to "test required" (col.9, lines 34-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Ho by categorizing the study materials as *learnt line-items* and the *un-learnt line items*, in

order to provide the student the *un-learned line items* which would be later classified as *learned line items* after studied by the student; and also by configuring the system to select the *learned line item* based on a predetermined time elapsed when the *line item* is reclassified as from the *un-learned* to the *learned* mode in order to prevent the repetition of the *line item* while the concept is still fresh to the student.

Futakuchi in view of Ho does not explicitly teach, said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required", that if the Q/A is correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked".

However, Meimer teaches, said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required" (Para.0047 and FIG 4, labels 418 and 420), that if the Q/A is

correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, (Para.0049, lines 1-8 and para.0050) and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked" (Para.0050).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Ho and further in view of Meimer by including a series of levels (e.g. see FIG 3) associated with the questions in the system in order to classify the questions that are answered correctly in a reasonable amount of time to the sections where the questions would be presented after a prolonged period of time, and also to classify the questions that are answered incorrectly to the sections where these questions would be presented after a predetermined short period of time, thereby giving the student more chance to practice on the study material that he/she has difficulty understanding.

Regarding claims 27 and 53, Futakuchi in view of Ho and further in view of Meimer teaches the claimed imitations as discussed above.

Meimer further teaches, said test and repetition tool (19) comprises a sorting tool (17), that said sorting tool (17) is adapted to perform repetition using a short term learning cycle when a Q/A has the state "repetition required" (Para.0067, lines 6-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Ho and further in view of Meimer by arranging (i.e. sorting) the correctly answered questions to the learnt level and the incorrectly answered questions to the "Missed Info" level so that the questions in the later section would be repeated to the student in a short time period interval so that the student would get a chance to comprehend the study material appropriately.

Note that even if Futakuchi in view of Ho and further in view of Meimer does not explicitly teach, *the repetition tool (19) is adapted to extend the time period  $T_{next\ test}$  by a factor lower than one, say a factor zero point eight (0.8)*, this limitation is implicitly taught in the prior art (e.g. Meimer Para.0068, lines 4-7).

- Claims 44-45 and 68-69, are rejected under 35 U.S.C. 103(a) as being unpatentable over Futakuchi 2001/0051330 in view of Geshwind 2002/0052860, in view of Ho 6,212,358 and further in view of Meimer 2002/0115048.

Regarding claims 44 and 68, Futakuchi in view of Geshwind teaches the claimed limitations as discussed above.

Futakuchi further discloses, the system data base (10) is adapted to store information about user profiles, i. e. individual information such as statistical information, one such information being current type of learning state, or knowledge status, for each Q/A in relation to respective user (Para.0055).

Futakuchi in view of Geshwind does not positively disclose, the learning states comprising the types: "not learned", "test required", "repetition required", "estimated as

knowledge", "knowledge", and "knowledge not further checked", that said learning tool 11 is connectable to, or comprises, a test and repetition tool (19) for optimised long term repetition, that said test and repetition tool 19 is adapted to store a point of time when a Q/A is marked as "knowledge" for a particular user, that said test and repetition tool (19) is adapted to control the time  $T_{\text{next test}}$  to which the user has to answer this question again, that if no repetition or test is made to prolong the time  $T_{\text{next test}}$ , then said test and repetition tool (19) is adapted to expire the point in time  $T_{\text{next test}}$  and change the state of the Q/A from "knowledge" to "test required", that if no test is done by the user then said test and repetition tool (19) is adapted to deteriorate the virtual dynamic image of said user's acquired knowledge in the system over time until all Q/A marked as "knowledge" changes state to "test required", that said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required", that if the Q/A is correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked".

However, Ho teaches, the learning states comprising the types: "not learned", "test required", "repetition required", "estimated as knowledge", "knowledge", and "knowledge not further checked", that said learning tool 11 is connectable to, or comprises, a test and repetition tool (19) for optimised long term repetition, that said test and repetition tool 19 is adapted to store a point of time when a Q/A is marked as "knowledge" for a particular user, that said test and repetition tool (19) is adapted to control the time  $T_{\text{next test}}$  to which the user has to answer this question again (see col.9, lines 9-17), that if no repetition or test is made to prolong the time  $T_{\text{next test}}$ , then said test and repetition tool (19) is adapted to expire the point in time  $T_{\text{next test}}$  and change the state of the Q/A from "knowledge" to "test required" (col.9, lines 28-33), that if no test is done by the user then said test and repetition tool (19) is adapted to deteriorate the virtual dynamic image of said user's acquired knowledge in the system over time until all Q/A marked as "knowledge" changes state to "test required" (col.9, lines 34-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind and further in view of Ho by categorizing the study materials as *learned line-items* and the *un-learned line items*, in order to provide the student the *un-learned line items* which would be later classified as *learned line items* after studied by the student; and also by configuring the system to select the *learned line item* based on a predetermined time elapsed when the *line item* is reclassified as from the *un-learned* to the *learned* mode in order to prevent the repetition of the *line item* while the concept is still fresh to the student.

Futakuchi in view of Geshwind and further in view of Ho does not explicitly teach, said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required", that if the Q/A is correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked".

However, Meimer teaches, said test and repetition tool (19) is adapted to pose the Q/A question to the user at a point in time when test of a Q/A is performed by the user through the test and repetition tool (19), that if the answer to a question is wrong, then said test and repetition tool (19) is adapted to change the status of this Q/A to "repetition required" (Para.0047 and FIG 4, labels 418 and 420), that if the Q/A is correctly answered, then the test and repetition tool (19) is adapted to change the status of the Q/A to "knowledge" and extend the time period  $T_{\text{next test}}$  by a factor higher than one, say a factor two (2), that if time has passed between the  $T_{\text{next test}}$  expired and the user started the test for the Q/A, then said test and repetition tool (19) is adapted to add this time to the  $T_{\text{next test}}$  before the extension factor is applied, (Para.0049, lines 1-8 and

para.0050) and that when the time period  $T_{\text{next test}}$  is longer than a predetermined time period, then said test and repetition tool (19) is adapted to mark this Q/A as "knowledge not further checked" (Para.0050).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind, in view of Ho and further in view of Meimer by including a series of levels (e.g. see FIG 3) associated with the questions in the system in order to classify the questions that are answered correctly in a reasonable amount of time to the sections where the questions would be presented after a prolonged period of time, and also to classify the questions that are answered incorrectly to the sections where these questions would be presented after a predetermined short period of time, thereby giving the student more chance to practice on the study material that he/she has difficulty understanding.

Regarding claims 45 and 69, Futakuchi in view of Geshwind, in view of Ho and further in view of Meimer teaches the claimed limitations as discussed above.

Meimer further teaches, said test and repetition tool (19) comprises a sorting tool (17), that said sorting tool (17) is adapted to perform repetition using a short term learning cycle when a Q/A has the state "repetition required" (Para.0067, lines 6-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Futakuchi in view of Geshwind, in view of Ho and further in view of Meimer by arranging (i.e. sorting) the correctly answered questions to the learnt level and the incorrectly answered questions to the



"Missed Info" level so that the questions in the later section would be repeated to the student in a short time period interval so that the student would get a chance to comprehend the study material appropriately.

Note that even if Futakuchi in view of Geshwind, in view of Ho and further in view of Meimer does not explicitly teach, *the repetition tool (19) is adapted to extend the time period  $T_{next\ test}$  by a factor lower than one, say a factor zero point eight (0.8)*, this limitation, is implicitly taught in the prior art (e.g. Meimer Para.0068, lines 4-7).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruk A. Gebremichael whose telephone number is (571) 270-3079. The examiner can normally be reached on Monday to Friday (7:30AM-5:00PM) ALT. Friday OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Examiner, Art Unit 3715

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